

						h	m	s	
Disappearance of preceding edge of penumbra of A						3	29	7	G.M.T.
"	"	"	"	umbra	"	3	29	22	
"	"	following	"	penumbra	"	3	29	46	
"	"	D	...	...	...	3	49	30	
"	"	F	...	...	...	3	52	5	

The place of observation was 696 feet west and 411 feet south of the Algiers Lighthouse, whose coordinates are  $12^{\text{m}} 17^{\text{s}} 0^{\text{e}}$  E.,  $36^{\circ} 47' 16''$  N. Our altitude was about 120 feet.

The duration of totality was about five seconds shorter than that calculated from the *Nautical Almanac* data, and about one second shorter than that calculated from the data of the American Ephemeris. The experience of this eclipse, combined with that of the Indian eclipse of 1898, would appear to establish the superiority of the constants used by the American Ephemeris. Both ephemerides use the same semi-diameter for the Sun, but the American value for the semi-diameter of the Moon is smaller by  $0''.9$  than that of the *Nautical Almanac*.

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*Remarks on the Total Eclipse of the Sun, 1900 May 28, observed at Navalmoral (Spain). By Rev. S. J. Johnson.*

I observed from the top of a hill a mile south of Navalmoral Station. The first nip of limbs at 2.35 (Madrid mean time) was clear and sharp. When the Sun was half obscured, thermometer three feet above the ground stood at  $88^{\circ}$ . A large portion of the Moon's limb was now visible outside the Sun, quite  $3'$  of arc in extent. At 3.27, when the magnitude of the eclipse reached the maximum at Greenwich, the light began to wane and became livid and unnatural. Thermometer then  $84^{\circ}$ . When eleven digits of the Sun were obscured it had gone down to  $80^{\circ}$ . Just after totality it registered  $79^{\circ}$ . In twenty-three minutes it had recovered  $1^{\circ}$  only.

The inner corona was bright round a large portion of the Sun more than five seconds before totality, but I cannot say that I noticed it after the total phase was over.

Equatorial streamers developed to the extent of two solar diameters on the western limb and of one on the eastern. They could, of course, be faintly traced further. Two feathery prominences, very conspicuous in the 2-inch telescope I was using, at the lower limb, one  $1\frac{1}{2}'$  in extent, the other  $1'$ —white, tinted with red.

The two really striking points were—

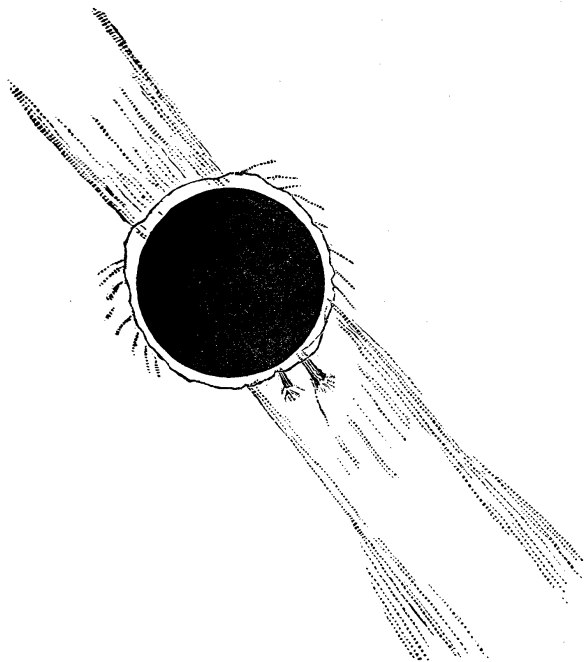
1. The scarlet sierra, or rim of brilliant red, stretching along the limb for about  $150^{\circ}$ . This was visible for eight or ten seconds

June 1900.

*of the Sun, 1900 May 28.*

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only, just before the Sun reappeared. I attribute the unusual extent of this to the fact that the Moon only just overlapped the Sun, the difference of diameters being small. (See Professor Grant's paper on this in *Monthly Notices*, 1872.)



2. The exquisite rosy glow displayed by a small bank of clouds on the S.W. horizon. Perhaps this gorgeous illumination was a reflection from the redness on the Sun just mentioned.

Totality lasted exactly eighty seconds.

*Mercury* flashed out brilliantly the instant the Sun was covered. I looked in vain for *Aldebaran*. My son made out *Castor* and *Pollux* with an opera-glass of wide field.

The equatorial streamers were of a pale white colour. The recovery of light was marvellously rapid. Being close to a stone building we looked for shadow bands, but none were seen.

*Venus* very bright at 3.27 ; no doubt could have been seen many minutes before this. It was visible easily for twenty-three minutes after totality.

The sky darkened more uniformly than I expected. I noticed none of the dark purple patches that I remember in the merely partial eclipse of 1870 in the south of England about the time of greatest obscuration. I was able to see the seconds hands of the watch without artificial light.

While we were experiencing considerable heat at Naval Moral, some ten or twelve miles to the north lay a range of snow-capped mountains.

*Melplash Vicarage, Bridport : June 5.*

*The Partial Eclipse of the Sun, 1900 May 28, observed at the Stonyhurst College Observatory. By the Rev. W. Sidgreaves, S.J.*

The continuous cloud of the morning began to break about noon. But there was no opportunity of observing the chromosphere for comparison with the photographs of the total eclipse until close upon the time of first contact. The examination was then carried on under the disadvantage of frequent passing clouds and mist. Four small prominences were located at the following position angles, measured from the north point round by east.

1 prominence	13°1'	high at	39°25'
2        "	15°25'	"	57°20'
3        "	13°1'	"	61°45'
4        "	10°9'	"	160°0'

The arc  $270^{\circ} \sim 332^{\circ}$  escaped observation, being covered by the Moon at the time.

At times the sky was very clear, and definition perfect. The cusps were seen by three observers to be quite sharp, and the Moon's limb was a smooth arc, except for four small lunar mountains projected on the solar disc. No trace of the dark Moon could be seen outside the cusps. The boiling appearance at the Moon's limb did not seem to differ at all from that of the Sun's limb.

The solar radiation thermometer was read at intervals of ten minutes during the eclipse, and the readings being maxima are each the highest during the preceding ten minutes.

G.M.T. h m	Fah. Scale. °	G.M.T. h m	Fah. Scale. °
2 50	120·8	4 0	84·1
3 0	115·0	10	89·2
10	112·5	20	93·9
20	101·2	30	92·0
30	95·8	40	109·5
40	90·5	50	114·8
50	85·2		

The last contact was timed by two observers: one with the 5-inch Clark Equatorial mounted in open air, the other with the 4-inch Cooke finder on the large equatorial. The times were taken directly from the sidereal clock in the transit room by two assistants, each receiving his electrical signal from his observer at the telescope. The night was cloudless, and the errors of the transit instrument were secured with sufficient accuracy. The